GDS-2000 Series

CE | RS-232 | USB | GPIB | PC S/W | LabView Driver

Features

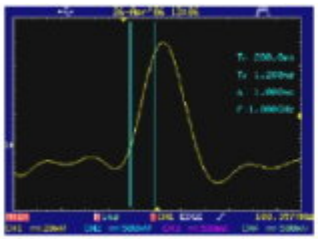
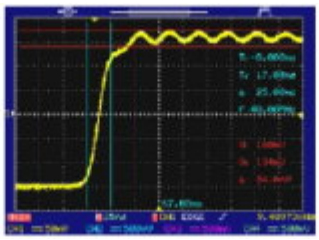
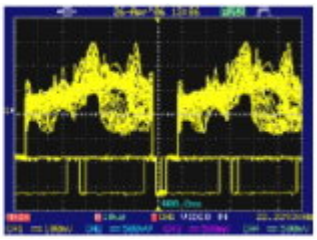
- 200/100/60 MHz Bandwidth
- 2/4 Input Channels
- 1GSa/s Real-Time and 25GSa/s Equivalent-Time Sampling
- Maximum 25k Points Record Length
- Large 5.6-in TFT Color Display
- USB Host/Device: USB Printer and USB Flash Drive Supported
- Battery Operation (optional)
- Color Printout

The GDS-2000 Series, carrying bandwidths of 200MHz, 100MHz and 60MHz and inputs of 2 and 4 channels, makes up a family of 6 members in total. The combination of 1GSa/s real-time sampling rate (25GSa/s for ET sampling) and 25k point's record length of the GDS-2000 Series provides the highest value platform among all equivalent products available in today's market. The 27 Auto Measurement functions, FFT measurement, Advanced Triggering, 12 Division Horizontal Display, Time Clock, Frequency Counter, Go/NoGo, Multi-Language Screen Menu, On-Line Help, Setup Sequence and a Lifetime Warranty* are all standard features of the GDS-2000 Series.

4CH & 2CH Selection

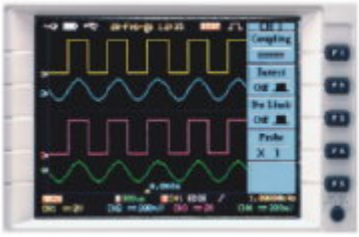
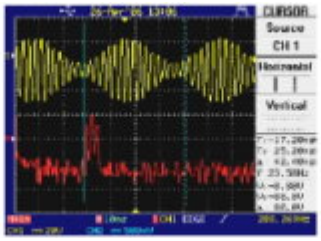
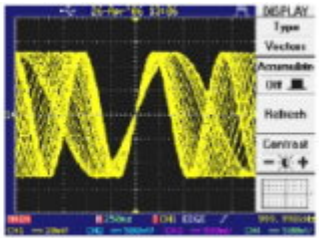
In addition to the traditional 2-channel models, 4-channel models have joined the product lineup. The vertical scale of each channel carries the full bandwidth of the model at 200MHz, 100MHz or 60MHz. With 4 full bandwidth channels, the range of applications is enhanced largely. Typical examples of four-channel applications include testing switching power supplies and rotary encoder measurements.

1GSa/s Real-time Sampling & 25GSa/s Equivalent-time Sampling

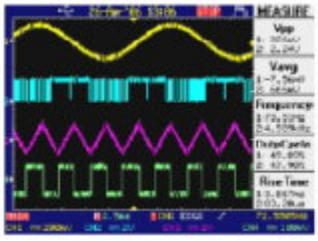
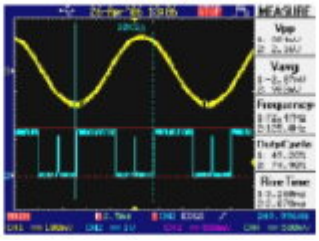
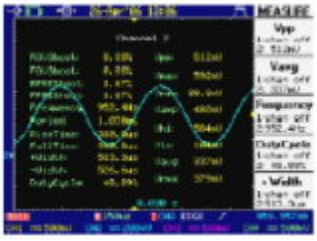
1GSa/s Real-Time Sampling allows measure high frequency signals accurately. A higher sampling rate helps to acquire more waveform data in a short period of time. It is especially useful for the single-shot (non-repetitive) waveform capture and observation as the faster the waveform data can be acquired for the better the waveform reconstruction. For repetitive signals, however, Equivalent-Time (ET) sampling is a better tool than Real-Time Sampling. ET sampling is able to acquire data periodically, with each successive sample increasing the sampling points. By acquiring data from repetitive waveform cycles, ET Sampling Technology accurately reconstructs the waveforms at a resolution of up to 40ps. The GDS-2000 Series is able to sustain a 25GSa/s sampling rate for repetitive waveform acquisition and reconstruction compared to a Real-Time Sampling capability of 1GSa/s rate.

TFT Color LCD Display

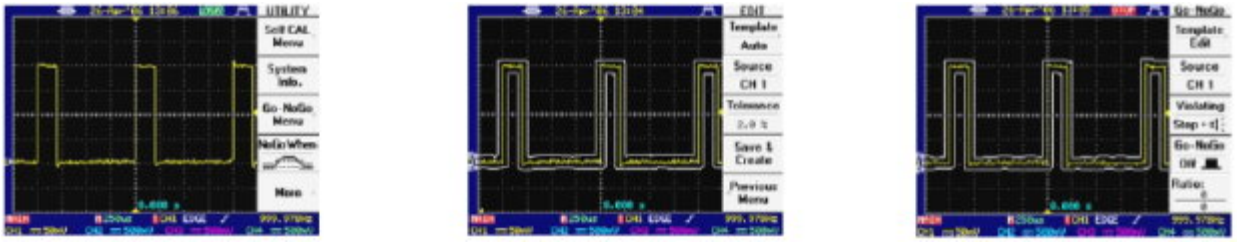
For a crisp and clear view, the GDS-2000 Series has a color TFT LCD display. Compared to STN displays, TFT panels have reduced flicker, increased wider viewing angles, and improved brighter color reproduction. With support for displaying 4 waveforms, measurement grids and signal data at the same time, a bright, clear, and colored screen is a necessity for comparing and analyzing data.

27 Automatic Measurements

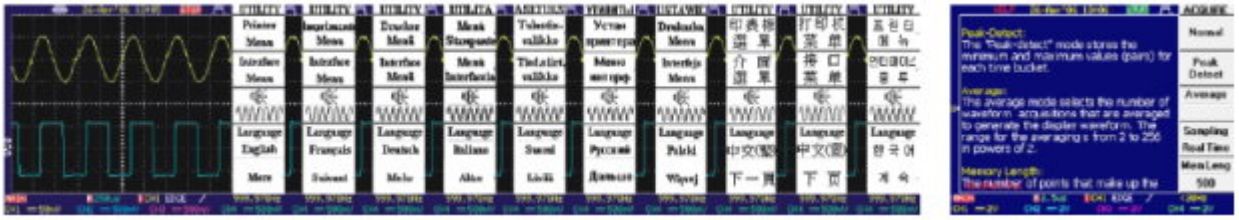
The GDS-2000 DSO Series employs a comprehensive set of automatic measurement features. The automatic waveform measurement feature includes 27 frequently used measurement items grouped into three sections: Voltage, Time (Frequency), and Delay. A maximum of 10 measurement results can be shown on the screen and updated in real-time. These automatic measurement features are an effective way to monitor the characteristics of a signal in real-time. 19 automatic
measurements can be shown on screen simultaneously.

Go/NoGo Testing



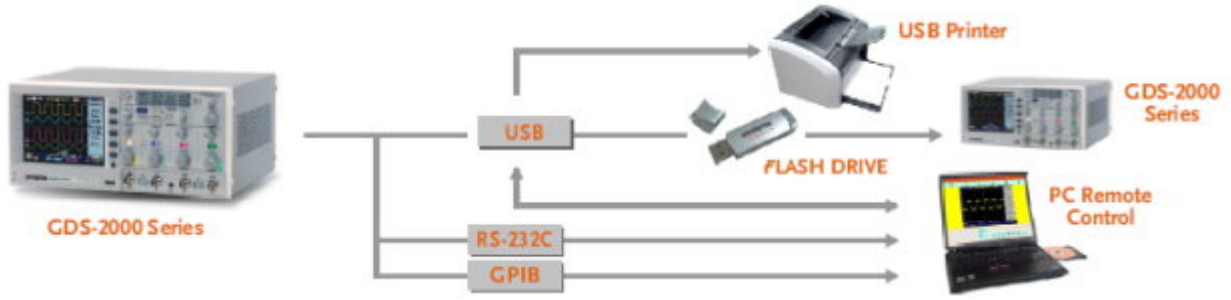
The Go/NoGo testing function checks whether an input signal violates a user-defined template. Setting the template is a simple two-step process. Select a reference waveform from an input signal or waveform file and configure the violation tolerance from the reference waveform. After setting the template, Go/NoGo testing is ready to go. The GDS-2000 Series compares the input signal with the template in real time and shows the test result on the screen. Both the type of Go/NoGo violation and the reaction to a violation can be configured to meet various application requirements. Any Go/NoGo violations are indicated either by an internal buzzer or by a control signal sent to an external device via the Go/NoGo BNC output on the rear panel.

On-Line Help And Multi-Language Support



For hassle-free operation, the GDS-2000 Series provides a built-in help manual via the Help key. Press the "Help" button to get into the on-screen Help mode, and then press any key to display instructions about that key's function on the screen. The GDS-2000 Series interface menu and the on-screen Help have multi-language support. Supported languages include English, Russian, Spanish, Korean, German, Japanese, Traditional and Simplified Chinese. This provides localized help if English is not your preferred language and offers an easy environment for multicultural joint-projects. In the future, GW Instek will increase the number of languages to provide broader localized support for languages that are not currently supported.

Data Storage & Transfer And USB Printing Support



20 sets of waveform data, 20 panel setups and 4 reference waveforms can be saved into internal memory to be recalled later for display. All the waveform data, panel setups and screen images can be saved to an USB flash drive.

With optional PC software available for download on the GW Instek website, the GDS-2000 series can be remotely controlled.

The software can also monitor and record waveform data over a period of time by continually transferring data to a PC for further analysis. The GDS-2000 Series supports printing directly to a USB compatible printer. Screen images can be printed in either color or grayscale depending on the printer settings.

Battery Power Operation

With the optional Li-ion battery packs, the GDS-2000 Series market coverage is extended to field application areas where AC power is not available. When fully charged, the two light-weight battery packs keep a GDS-2000 DSO running under normal operation for over 3 hours.

The built-in battery charger automatically recharges the battery packs whenever the oscilloscope is connected to AC power. An optional soft carrying case (GSC-005) is also available to accommodate field applications.

	GDS-2062/2064	GDS-2102/2104	GDS-2202/2204
VERTICAL			
Channels	2 / 4	2 / 4	2 / 4
Bandwidth	DC ~ 60MHz (-3dB)	DC ~ 100MHz (-3dB)	DC ~ 200MHz (-3dB)
Rise Time	5.8ns Approx.	3.5ns Approx.	1.75ns Approx.
Sensitivity	2mV/div ~ 5V/div (1-2-5 increments)		
Accuracy	±(3% x |Readout|+0.05 div x Volts/div+0.8mV)		
Input Coupling	AC, DC & Ground		
Input Impedance	1MΩ±2%, ~16pF		
Polarity	Normal & Invert		
Maximum Input	300V (DC+AC peak), CATII		
Waveform Signal Process	+ , - , FFT		
Offset Range	2mV/div ~ 20mV/div : ±0.5V 50mV/div ~ 200mV/div : ±5V 500mV/div ~ 2V/div : ±50V 5V/div : ±300V		
Bandwidth Limit	20MHz (-3dB)		
TRIGGER			
Sources	CH1 , CH2 , CH3 , CH4 , Line		
Modes	Auto-Level, Auto, Normal, Single, TV, Edge, Pulse Width		
Coupling	AC , DC , LF rej. , HF rej. , Noise rej.		
Sensitivity	DC ~ 25MHz : Approx. 0.5div or 5mV 25MHz ~ 200MHz : Approx. 1div or 10mV		
HORIZONTAL			
Range	1ns/div ~ 10s/div (1-2-5 increments) ROLL : 250ms/div ~ 10s/div		
Modes	Main, Window, Window Zoom, Roll, Scan, X-Y		
Accuracy	±0.01%		
Pre-Trigger	20 div maximum		
Post-Trigger	1000 div		
X-Y MODE			
X-Axis Input	Channel 1		
Y-Axis Input	Channel 2		
Phase Shift	±3° at 100kHz		
SIGNAL ACQUISITION			
Real-Time Sample Rate	1GSa/s maximum		
Equivalent Sample Rate	25GSa/s maximum		
Vertical Resolution	8 Bits		
Record Length	25K Points maximum		
Acquisition Mode	Normal, Peak Detect, Average		
Peak Detection	10ns		
Average	2 , 4 , 8 , 16 , 32 , 64 , 128 , 256		
CURSORS AND MEASUREMENT			
Voltage Measurement	Vpp , Vamp , Vavg , Vrms , Vhi , Vlo , Vmax , Vmin , Rise Preshoot/		

	Overshoot , Fall Preshoot/Overshoot
Time Measurement	Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle
Delay Measurement	Eight types of delay measurement
Cursors Measurement	Voltage difference between cursors (ΔV) Time difference between cursors (ΔT)
Auto Counter	Resolution : 6 digits Accuracy : ±2% Signal Source: All available trigger source except the Video trigger mode
CONTROL PANEL FUNCTION	
Autoset	Automatically adjusts Vertical VOLTS/DIV, Horizontal TIME/DIV, and Trigger level
Save Setup	Up to 20 sets of measurement conditions
Save Waveform	24 sets of waveform
DISPLAY	
TFT LCD Type	5.6 inch
Display Resolution	234 (Vertically) x 320 (Horizontally) Dots
Display Graticule	8 x 10 divisions ; 8 x 12 divisions (menu off)
Display Brightness	Adjustable
INTERFACE	
Go/NoGo Output	5V Maximum/10mA TTL Open Collector Output
RS-232 Interface	DB 9-pin male DTE RS-232 interface
GPIB Interface (Option)	Fully programmable with IEEE 488.2 compliance
USB	USB Host/Device 2.0 full speed supported
POWER SOURCE	
Line Voltage Range	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection
Battery Power(Option)	Battery : 10.8V Li-Ion battery pack Charge Time : 8 hours (Power ON) Operating Time : 3 hours , depending on operating condition
MISCELLANEOUS	
Multi-Language Menu	Available
Online Help	Available
Time Clock	Time and Date, Provide the Date/Time for saved data
DIMENSIONS & WEIGHT	
	310(W) x 142(H) x 254(D) mm; Approx. 4.3kg